RRs in the New Freight Era

*NUTC Sandhouse 2017*

Xmastime (12/5), 2017

Anthony B Hatch

abh consulting/NYC
Railroads Since Staggers

• Regulation Era (1900s-1980)
  – Awful ROI
  – Cash used for Conglomeracy

• Deregulation Era (1981-1995)
  – Cost Cutting (Labor, Rolling Stock, RE)
  – Short Line Creation
  – Non-core (non-rail) assets sold/spun
  – Market share losses to deregulated, subsidized trucking
  – US manufacturing decline

• Core Consolidation Era (1995-2002)
• “Railroad Renaissance” (2003-2014)
Railroad Renaissance Prep

• Core Consolidation (1995-2002)
  – Mergers (& IPOs) create US “Big 4”+ 2 Canadians (& KSU and 600 short lines)
  – Mergers stall ROI improvement initially, targets late (culture/IT/Capex issues, etc)
  – Globalization & Response – ther creation of modern international intermodal
  – PRB Coal booms
  – EHH takes over at CN
Renaissance at last
2003-2014)

- Railroads gain pricing power ~2003
- RR ORs decline; ROIs reach CoC levels
- Rereg threats emerge/rails’ financial position improves
- RR Capex jumps to 20%+/revenues (but so does DPS/repos)
- Intermodal booms (with domestic joining)
- Warren buys BNSF (‘08)
- Activists emerge (TCI, 3G, Pershing, Mantle Ridge); EHH to CP
- Boom/Busts – not just Ag but ethanol, CBR
- Coal begins secular decline (2010)
Issues for RR/Intermodal to 2020

- Return to Growth?
- Fight over Capital – MoW vs Buybacks? Activists, IT, PTC, etc
- M&A Fight fallout effect on Capex?
- RR Pricing Power Still?
- Coal – Dead Cat Bounce?
- Factors: Oil Prices, Consumer Spend/GDP, Truck Capacity
- Infrastructure & the RR Advantage (vs subsidized highway)
- Trade and the Panama Canal impacts? NAFTA? China?
- Rail Service (& Safety) Deterioration?
- Productivity (train lengths, etc) Improvements
- Insourcing
- Driverless beats One Man Crews to the market?
Fork in the Road – Railroads 2015-?

• Coal plummets
• Rail recovery volumes don’t (yet) reach 2006-07 peak
• Auto recovery temporary?
• False Hopes? (Ethanol/CBR/Sand?/Plastics?)
• End of “Super Cycle” impacts Ag, Steel
• IM mysteriously slows 2015-16; recovers trend
Renaissance 2?

- Intermodal?
- Plastics? Housing? Infrastructure? (??)
  “Merchandise”?
- Trade??
- IT spend?
- IT Threat? (AV/Tesla/Amazon/etc)?
- Capex vs. FCF?
- PSR vs Other?
- Short Lines?
Issues for RR/Intermodal to 2020

• Return to Growth?
• Fight over Capital – MoW vs Buybacks? Activists, IT, PTC, etc
• M&A Fight fallout effect on Capex?
• RR Pricing Power Still?
• Coal – Dead Cat Bounce?
• Factors: Oil Prices, Consumer Spend/GDP, Truck Capacity
• Infrastructure & the RR Advantage (vs subsidized highway)
• Trade and the Panama Canal impacts? NAFTA? China?
• Rail Service (& Safety) Deterioration?
• Productivity (train lengths, etc) Improvements
• Insourcing
• Driverless beats One Man Crews to the market?
Hunter’s Back!

- Mantle/EHH Team Up - EHH leaves CP – and gets his wish (a US Class One) – NOTE: *Not* about consolidation!
- As such, only 1 Stakeholder group – CSX shareholders – needed to approve! (2/10)
- Precision Railroading will improve OR but *when*?
  - CSX isn’t like CP (damaged goods)
  - CSX isn’t like CP (density/complexity)
  - Customer Service is more important than ever!
- *Changes already* – Hump/Flat yards, Work Rules, Service metrics, Stored rolling stock, Customer reactions
- Late Summer Service Crisis (Stabilized?)
- *Key Dates* – October 28-29 (*CANCELLED!*)
New Administration “Promises”

1. The end of the “War on Coal” – maybe a spark amongst the smoke?
2. Drill, Baby, Drill (and pipelines, eh!)
3. Infrastructure (Privately Financed) – “Show me”
4. Bye-bye Trade (NAFTA)?? Deficits misunderstood?
5. Get out and stay out! End of the 150-year relationship of GOP & “Big Business” (ask Ford)
6. War on Regulation (maybe) on Red tape (likely)
7. Lower taxes – still waiting////
8. Labor – Who’s driverless, now? (Big RR labor Year; missed opportunity?)
Infrastructure Promises vs. Reality

• Jan 20 POTUS Priority #1 ($1 trillion)
• 80/20 split in favor of PPPs (?)
• Reality: H1/17 Public Construction Spend down 10%
• Reality: Q2 Infrastructure Expense down to 1.4% US GDP (lowest on record)
• But….Regulatory/Permitting) reform may help private networks (such as railroads)
Cross-Border: U.S./Canada

| Source: GTC, FTR, IANA; Copyright 2017 |

**Change**

-30%

-20%

-10%

0%

10%

20%

30%

**X-Border U.S.-Canada: Year/Year % Change**

- **International**
- **Domestic**
- **Total**

**Sources:** GTC, FTR, IANA

**Table:**

<table>
<thead>
<tr>
<th></th>
<th>Cross Border U.S.-Canada</th>
<th>North America</th>
</tr>
</thead>
<tbody>
<tr>
<td>July</td>
<td>+13.0%</td>
<td>+6.6%</td>
</tr>
<tr>
<td>Year to Date</td>
<td>+9.2%</td>
<td>+3.7%</td>
</tr>
<tr>
<td>Last 12 Months</td>
<td>+4.5%</td>
<td>+2.0%</td>
</tr>
<tr>
<td>% of Total</td>
<td>6.9%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

**Source:** IANA ETSO, FTR

Analysis
Cross-Border: U.S./Mexico

X-Border U.S.-Mexico: Y/Y %

Domestic

Total

Sources: GTC, FTR, IANA; Copyright 2017

<table>
<thead>
<tr>
<th></th>
<th>Cross Border U.S.-Mexico</th>
<th>North America</th>
</tr>
</thead>
<tbody>
<tr>
<td>July</td>
<td>-2.9%</td>
<td>+6.6%</td>
</tr>
<tr>
<td>Year to Date</td>
<td>-6.4%</td>
<td>+3.7%</td>
</tr>
<tr>
<td>Last 12 Months</td>
<td>-2.3%</td>
<td>+2.0%</td>
</tr>
<tr>
<td>% of Total</td>
<td>1.7%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Only 33 ISO Boxes Crossed the Border on intermodal in July.
The Freight Recession 2015-16
Silver Linings?

• *Service (& Safety) Recovery (long term!) Trend (Capex Pays Off)*
• *Productivity (& volume?) Inflection At Last (H217?)*
• Restoration of the “Grand Bargain” – at risk again?
• Reduced (N/T) Political Pressure (lots of other things to focus on!)
• Coal “stabilization” (Part Two)??
• IM (etc.) latent demand….Bi-Modal results; Ag Volumes
• Gas-fired Industrial Buildout; Southbound migration of industry (see WoodMac & PLG and BofA, etc)
• *Revised MoW Capex (GTMs/Mix) frees CF/2017+*
The “Grand Bargain”

- *In return for higher prices (& ROI), rails spend, increase capacity & improve service (2005-2012) – The unstated “Grand Bargain”*
- Rails gain pricing power (~2003) & F/S
- Rails (re) Gain Market Share
- Rails Spend Cash “Disproportionately” on Capex (~18-20% of revenues)
- Promotes “Virtuous Circle” – all stakeholders benefit
- Under challenge, perceived and real
Future Growth Potential (Revised)

Secular stories and specific targeted sectors (in order)....

1. **Intermodal** – international and now domestic
2. **Chemicals/re-industrialization?** Near-sourcing/Mexico (??)
3. **Cyclical recovery** – housing, steel, autos (still?) & parts, paper?
4. **Grain & Food** – Exports up 10% this CY? CY17 an issue, long term still positive: NA still the world’s breadbasket, but obviously (un)predictable?
5. **Car-load merchandise – capacity available!**
6. **Shale/(if not) oil/sand** – demonstrated “flexibility”
7. **Other rail opportunities** exist but in smaller scale: for example:
   - Unitization
   - Industrial Products/MSW
   - Perishables
U.S. Rail Carloads of Coal: Not Pretty!

Data are originations and do not include the U.S. operations of CN and CP.
Source: AAR Weekly Railroad Traffic
2017-18 RR EPS/Expectations

- RR earnings 2016-H1 struggled to match improved sentiment & increased expectations
- H2/16 Volume inflection (coal stabilizes/IM grows)
- H1 was well above bullish expectations; H2 faces tougher comps....
- Productivity (and price) retention; improvement
- Capex down...but not out (?) – once again, CN leads the way!
- Guidance & Visibility slightly improved....
- Winter is coming (and going) – AV, etc
- Big Labor Year
- He’s Baaaaaack! (Fall, 2017) – watch for interesting reactions at NS, CP
Rapid Intermodal Growth

Source: AAR Weekly Railroad Traffic
Why Has Intermodal Grown Over the Years?

- Better service
- Huge RR investments
- Truck problems
  -- fuel
  -- driver shortages
  -- congestion
- Switch from other freight cars
- Growing economy and *trade*
Containers vs. Trailers as % of U.S. Rail Intermodal Traffic

Source: AAR (Weekly Railroad Traffic)
Lower Intermodal Volumes in 2016

(millions of containers and trailers)

Source: AAR (Weekly Railroad Traffic)
Why Did Intermodal Fall in 2016?

- Cheaper diesel fuel partially offsets RR's fuel efficiency advantage
- Inventory overhang
- Truck overcapacity
- Driver turnover “only” ~75%
- Lack of strong economic growth
U.S. Rail Intermodal Traffic

(12-week moving average originations)

Data do not include the U.S. operations of CN and CP.  Source: AAR
U.S. Rail Intermodal Traffic

(% change from same month previous year)

Data are based on originations, are not seasonally adjusted, and do not include the U.S. operations of CN and CP. Source: AAR Weekly Railroad Traffic
Overall domestic container volumes are still a small share of total freight

Source: FTR Transportation Intelligence, TTX
The domestic container fleet is expected to grow 4-5%.

Source: TTX
Domestic container growth has come disproportionately from Canada and transloads.

First Half 2017 Domestic Container Growth

- Mexico: 4%
- Canada: 7%
- U.S. Transloads: 6%
- U.S. Non-Transloads: 8%

Source: IANA
Domestic container growth should resume, but slow over time as the market matures.

North America Domestic Container Volume

Source: IANA, Licensed Materials, TTX
Domestic containers have been doing well in Canada, but it is unlikely they can maintain momentum.
Rail (Five-Year) Growth Potential

1. Intermodal (domestic)*
2. Intermodal (International)
3. Mexico/Southern US
4. Chemicals/plastics (US Gulf)
5. Housing/Construction
6. Sand & Aggregates
7. Grain
8. Industrial Products/”Merchandise” (car-load)*
9. *Neutral* – Autos, Positive – Auto Parts*

(*Secular Modal Share Shift Opportunities)
Long Term Trends in Class I Freight Railroad Capital Spending
($ billions)

Source: AAR
Railroads: Far More Capital Intensive Than Other Industries

Capital Expenditures as a % of Revenue*

*Average 2006-2015   Sources: Census Bureau, AAR
Record Railroad Capital Spending in Recent Years

($ billions)

- 2007: $9.2
- 2008: $10.2
- 2009: $9.9
- 2010: $9.8
- 2011: $11.6
- 2012: $13.5
- 2013: $13.1
- 2014: $15.1
- 2015: $17.4
- 2016: $13.8

Data are for Class I railroads. 2016 is preliminary. Source: AAR
Railroad Capital Spending
($ billions, current dollars)

2016 is preliminary. Data are for Class I railroads. Source: AAR
Not Realistic to Think Highway Construction Will Keep Up

(index 1980 = 100)

Source: Federal Highway Administration
Higher Rail Profitability = Higher Rail Spending

*Capital spending plus maintenance expenses. Data are current dollars and are for Class I railroads. Source: AAR
Close Correlation Between RR ROI and Spending

*Capital spending + maintenance expense. **Net railway operating income / average net investment in transportation property. Data are for Class I railroads. Source: AAR
Future RR Capex

- **2016 Capex down across the board (announced average -16%!) – except CN and further midyear cuts bring 2016E to -20%?**
- **Changing Mix of volumes - Most Important Decision Period in Years**
- **2017 -Further cuts – Still able to avoid muscle?**
- Coal: “Stranded Assets”? NS selling segments....CSX of Tomorrow
- Coal/Mix: Reduced Gross Ton Miles=Reduced Maintenance of Way?
- *Yet remember: Service & Safety are even more critical to future RR success*
- **Changing mix of capex?**
- Changing %revenues (16-17%)? UNP @15%, CNI @ 20%
- PTC Extension resolution – more to develop? ECP?
Railroads Have Only Recently Earned Their Cost of Capital

Class I RR Cost of Capital vs. Return on Investment

Note: In 2006, the Surface Transportation Board significantly changed the method by which it calculates the rail industry cost of capital. Source: STB
Long-Term Demand for Freight Transportation Will Grow

Billions of Tons of Freight Transported in the U.S.

- **2015e**: 18.0 billion tons
- **2025p**: 20.7 billion tons
- **2035p**: 22.8 billion tons
- **2045p**: 25.3 billion tons

The U.S. DOT forecasts total U.S. freight movements to rise from around 18.0 billion tons in 2015 to 25.3 billion tons in 2045 – a 41% increase.

*e – estimated  p – projected  Source: FHWA - Freight Analysis Framework, version 4.3*
Railroad Philosophy

• Critical to the “RR Renaissance” has been Capex
• Private vs public capital (failing US infrastructure)
• Capex sparked by growth and ROI prospects – examples: IM, CBR
• “Open Access” antithetical to this…right?
• Is a RR its Network (Class One belief) OR is it its Operators (Hunter)?
• Cult of the OR vs ROIC; EHH as “victim of his own success”; short-termism
Q3/17 Earnings

• Grossly distorted by weather (costs/revenues/rebuild)
• CSX impact (not just on CSX!)
• Outlook – tougher comps in coal, autos (?), sand
• Price/service/capex
• Beat expectations again? Yes – 4/2/1
• EPS beat S&P500 levels again
• Stocks significantly outperform
Railway Night Sweats

• Politics by Tweet
• Regulation - The *Evergreen*
• *Trade – Is Globalization over?*
• *Trade – Will we kill it? “America First”* (42% of NA-car loads)
• *(Specifically) NAFTA – which impacts S....&N!*
• Driverless – AV beer runs! (ahh the irony)
• Amazon – Who isn’t scared?
• 3-D Printing – good enough for combat? Or F1?
• *Short-Termism/Over-reactions*
• *Capex and FCF planning*
Competitive Advantage: RR Capex vs Aged National Infrastructure

Older assets may need renewal...

Average age of infrastructure in years, historical cost method, US

Source: BEA.
“Our Troubled Industry*”?

- H1/17 OR averaged 63% H2 improvement by 200+bps
- Rails in best-ever condition
- Rail Finance – Margins, Cash Flow, etc – best ever
- Coal has stabilized, at least
- Volumes have inflected
- Intermodal is growing again
- *What’s next?*

/*Trains Magazine March 2017*/
ABH Consulting/www.abhatchconsulting.com
Anthony B. Hatch
1230 Park Avenue
New York, NY 10128
(917) 520-7101
ABH18@mindspring.com
www.railtrends.com